

CLAIMS

1. An interference pigment having a mass tone, which comprises a flake-form substrate with successive coatings of:

- (A) a colorless coating having a refractive index of $n > 1.8$ in a layer thickness of 20 – 250 nm,
- (B) a colorless coating having a refractive index of $n \leq 1.8$ in a layer thickness of 10 – 100 nm,
- (C) a colorless coating having a refractive index of $n > 1.8$ in a layer thickness of 20 – 250 nm,
- (D) an absorbent layer having a layer thickness of 1 – 100 nm,

and, optionally,

- (E) an outer protective layer.

2. An interference pigment according to claim 1, wherein the flake-form substrate is natural or synthetic mica, glass flake, Al_2O_3 flake, SiO_2 flake or TiO_2 flake, or a mixture thereof.

3. An interference pigment according to claim 1, wherein coating (A) consists of TiO_2 , ZrO_2 , ZnO or BiOCl .

4. An interference pigment according to claim 2, wherein coating (A) consists of TiO_2 , ZrO_2 , ZnO or BiOCl .

5. An interference pigment according to claim 1, wherein coating (B) consists of SiO_2 , MgF_2 , B_2O_3 , $\text{AlO}(\text{OH})$, MgSiO_3 or Al_2O_3 , or mixtures thereof.

6. An interference pigment according to claim 2, wherein coating (B) consists of SiO_2 , MgF_2 , B_2O_3 , $\text{AlO}(\text{OH})$, MgSiO_3 or Al_2O_3 , or mixtures thereof.

7. An interference pigment according to claim 3, wherein coating (B) consists of SiO_2 , MgF_2 , B_2O_3 , $\text{AlO}(\text{OH})$, MgSiO_3 or Al_2O_3 , or mixtures thereof.

8. An interference pigment according to claim 1, wherein the absorbent layer (D) is selected from metal oxides, sulfides, tellurides, selenides, lanthanides, phosphates, actinides and mixtures thereof.

9. An interference pigment according to claim 1, wherein the absorbent layer (D) consists of Fe_2O_3 , Fe_3O_4 , Cr_2O_3 , Ce_2O_3 , Cr_2O_3 , a molybdenum oxide, CoO , Co_3O_4 , VO_2 , V_2O_3 , NiO , V_2O_5 , CuO , Cu_2O , Ag_2O , CeO_2 , MnO_2 , Mn_2O_3 , Mn_2O_5 , MoS_2 , WS_2 , a titanium oxynitride, titanium nitride or any combination of the above.

10. An interference pigment according to claim 2, wherein the absorbent layer (D) consists of Fe_2O_3 , Fe_3O_4 , Cr_2O_3 , Ce_2O_3 , Cr_2O_3 , a molybdenum oxide, CoO , Co_3O_4 , VO_2 , V_2O_3 , NiO , V_2O_5 , CuO , Cu_2O , Ag_2O , CeO_2 , MnO_2 , Mn_2O_3 , Mn_2O_5 , MoS_2 , WS_2 , a titanium oxynitride, titanium nitride or any combination of the above.

11. An interference pigment according to claim 3, wherein the absorbent layer (D) consists of Fe_2O_3 , Fe_3O_4 , Cr_2O_3 , Ce_2O_3 , Cr_2O_3 , a molybdenum oxide, CoO , Co_3O_4 , VO_2 , V_2O_3 , NiO , V_2O_5 , CuO , Cu_2O , Ag_2O , CeO_2 , MnO_2 , Mn_2O_3 , Mn_2O_5 , MoS_2 , WS_2 , a titanium oxynitride, titanium nitride or any combination of the above.

12. An interference pigment according to claim 5, wherein the absorbent layer (D) consists of Fe_2O_3 , Fe_3O_4 , Cr_2O_3 , Ce_2O_3 , Cr_2O_3 , a molybdenum oxide, CoO , Co_3O_4 , VO_2 , V_2O_3 , NiO , V_2O_5 , CuO , Cu_2O , Ag_2O , CeO_2 , MnO_2 , Mn_2O_3 , Mn_2O_5 , MoS_2 , WS_2 , a titanium oxynitride, titanium nitride or any combination of the above.

13. An interference pigment according to claim 1, wherein coating (A) and coating (C) have the same composition.

14. An interference pigment according to claim 3, wherein coating (A) and coating (C) have the same composition.

15. An interference pigment according to claim 13, wherein coating (A) and coating (C) consist of TiO_2 .

16. A process for producing an interference pigment according to claim 1, which comprises coating the flake-form substrate by a wet-chemical method of hydrolytic decomposition of metal salts in aqueous medium or by a CVD or PVD process.

17. A paint, coating, printing ink, plastic, ceramic, glass, cosmetic, or laser markable composition comprising a pigment of claim 1.
18. A pigment composition comprising one or more binders, optionally one or more additives, and one or more interference pigments according to claim 1.
19. A dry preparation comprising an interference pigment according to claim 1.
20. A dry preparation of claim 19, in the form of pellets, granules, chips or briquettes.